Title 210 -- NEBRASKA DEPARTMENT OF INSURANCE

Chapter 71 -- VALUATION OF LIFE INSURANCE POLICIES REGULATION

<u>001. Purpose</u>.

001.01 The purpose of this regulation is to provide:

001.01(1) Tables of select mortality factors and rules for their use;

001.01(2) Rules concerning a minimum standard for the valuation of plans with nonlevel premiums or benefits; and

001.01(3) Rules concerning a minimum standard for the valuation of plans with secondary guarantees.

001.02 The method for calculating basic reserves defined in this regulation will constitute the Director's Reserve Valuation Method for policies to which this regulation is applicable.

<u>002</u>. Authority.

This regulation is issued under the authority of <u>Neb.Rev.Stat</u>. §44-101.01 of the Insurance Laws of Nebraska.

003. Applicability.

This regulation shall apply to all life insurance policies, with or without nonforfeiture values, issued on or after the operative date of this regulation, subject to the following exceptions and conditions.

003.01 Exceptions

003.01(1) This regulation shall not apply to any individual life insurance policy issued on or after the operative date of this regulation if the policy is issued in accordance with and as a result of the exercise of a reentry provision contained in the original life insurance policy of the same or greater face amount, issued

before the operative date of this regulation, that guarantees the premium rates of the new policy. This regulation also shall not apply to subsequent policies issued as a result of the exercise of such a provision, or a derivation of the provision, in the new policy.

003.01(2) This regulation shall not apply to any universal life policy that meets all the following requirements:

003.01(2)(a) Secondary guarantee period, if any, is five (5) years or less;

003.01(2)(b) Specified premium for the secondary guarantee period is not less than the net level reserve premium for the secondary guarantee period based on the CSO valuation tables defined in Section 004.06 and the applicable valuation interest rate; and

003.01(2)(c) The initial surrender charge is not less than 100 percent of the first year annualized specified premium for the secondary guarantee period.

003.01(3) This regulation shall not apply to any variable life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

003.01(4) This regulation shall not apply to any variable universal life insurance policy that provides for life insurance, the amount or duration of which varies according to the investment experience of any separate account or accounts.

003.01(5) This regulation shall not apply to a group life insurance certificate unless the certificate provides for a stated or implied schedule of maximum gross premiums required in order to continue coverage in force for a period in excess of one year.

003.02 Conditions

003.02(1) Calculation of the minimum valuation standard for policies with guaranteed nonlevel gross premiums or guaranteed nonlevel benefits (other than universal life policies), or both, shall be in accordance with the provisions of Section 006.

003.02(2) Calculation of the minimum valuation standard for flexible premium and fixed premium universal life insurance policies, that contain provisions resulting in the ability of a policyholder to keep a policy in force over a secondary guarantee period shall be in accordance with the provisions of Section 007.

004. Definitions.

For purposes of this regulation:

004.01 "Basic reserves" means reserves calculated in accordance with Neb.Rev.Stat. §44-404(d).

004.02 "Contract segmentation method" means the method of dividing the period from issue to mandatory expiration of a policy into successive segments, with the length of each segment being defined as the period from the end of the prior segment (from policy inception, for

the first segment) to the end of the latest policy year as determined below. All calculations are made using the 1980 CSO valuation tables, as defined in Subsection 004.05 of this section, (or any other valuation mortality table adopted by the National Association of Insurance Commissioners (NAIC) after the operative date of this regulation and promulgated by regulation by the director for this purpose), and, if elected, the optional minimum mortality standard for deficiency reserves stipulated in Section 005.02 of this regulation.

The length of a particular contract segment shall be set equal to the minimum of the value t for which G_t is greater than R_t (if G_t never exceeds R_t the segment length is deemed to be the number of years from the beginning of the segment to the mandatory expiration date of the policy), where G_t and R_t are defined as follows:

$$GP_{x+k+t}$$

$$G_{t} = \underline{\qquad}$$

$$GP_{x+k+t-1}$$

where:

x = original issue age;

k = the number of years from the date of issue to the beginning of the segment;

t = 1, 2, ...; t is reset to 1 at the beginning of each segment;

 $GP_{x+k+t-1}$ = Guaranteed gross premium per thousand of face amount for year t of the segment, ignoring policy fees only if level for the premium paying period of the policy.

 $\boldsymbol{R}_{t}^{} =$ How \boldsymbol{R}_{t} may be incre or $\boldsymbol{q}_{\boldsymbol{x}+\boldsymbol{k}}$ -1 decr by one perc in any polic year at the com optic but $\mathbf{R}_{\mathbf{t}}$

shall not be less than one;

where:

x, k and t are as defined above, and

 $q_{x+k+t-1} = valuation$

mortality rate for deficiency reserves in policy year k+t but using the mortality of Section 005.02(2) if Section 005.02(3) is elected for deficiency reserves.

However, if GP_{x+k+t} is greater than 0 and $GP_{x+k+t-1}$ is equal to 0, G_t shall be deemed to be 1000. If GP_{x+k+t} and $GP_{x+k+t-1}$ are both equal to 0, G_t shall be deemed to be 0.

004.03 "Deficiency reserves" means the excess, if greater than zero, of

004.03(1) Minimum reserves calculated in accordance with Neb.Rev.Stat. §44-404 (h) over

004.03(2) Basic reserves.

004.04 "Guaranteed gross premiums" means the premiums under a policy of life insurance that are guaranteed and determined at issue.

004.05 "Maximum valuation interest rates" means the interest rates defined in Neb.Rev.Stat. §44-404(c) (Computation of Minimum Standard by Calendar Year of Issue) that are to be used in determining the minimum standard for the valuation of life insurance policies.

004.06 "1980 CSO valuation tables" means the Commissioner's 1980 Standard Ordinary Mortality Table (1980 CSO Table) without ten-year selection factors, incorporated into the 1980 amendments to the NAIC Standard Valuation Law, and variations of the 1980 CSO Table approved by the NAIC, such as the smoker and nonsmoker versions approved in

004.07 "Scheduled gross premium" means the smallest illustrated gross premium at issue for other than universal life insurance policies. For universal life insurance policies, scheduled gross premium means the smallest specified premium described in 007.01(3), if any, or else the minimum premium described in Section 007.01(4).

004.08 (1) "Segmented reserves" means reserves, calculated using segments produced by the contract segmentation method, equal to the present value of all future guaranteed benefits less the present value of all future net premiums to the mandatory expiration of a policy, where the net premiums within each segment are a uniform percentage of the respective guaranteed gross premiums within the segment. The uniform percentage for each segment is such that, at the beginning of the segment, the present value of the net premiums within the segment equals:

004.08(1)(a) The present value of the death benefits within the segment, plus

004.08(1)(b) The present value of any unusual guaranteed cash value (see section 006.04) occurring at the end of the segment, less

004.08(1)(c) Any unusual guaranteed cash value occurring at the

start of the segment, plus

004.08(1)(d) For the first segment only, the excess of 004.08(1)(d)(i) over 004.08(1)(d)(ii), as follows:

(1) (d) (i) A net leve annu pren equa to the pres valu at the date of issuc of the bene prov for in the first segn after the first polic year divid by the

004.

pres valu at the date of issuc of an annu of one per year paya on the first and each subs anni with the first segn on whic a pren falls due. How the net leve annt pren shall not exce the net leve

annu pren on the

nine

_

year pren who life plan of insu of the samo rene year equi leve amo at an age one year high than the age at issue of the polic

004.

(1)

(d)

(ii)

A

net one year term pren for the bene prov for in the first polic year

004.08(2) The length of each segment is determined by the "contract segmentation method," as defined in this section.

004.08(3) The interest rates used in the present value calculations for any policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the sum of the lengths of all segments of the policy.

004.08(4) For both basic reserves and deficiency reserves computed by the segmented method, present values shall include future benefits and net premiums in the current segment and in all subsequent segments.

004.09 "Tabular cost of insurance" means the net single premium at the beginning of a policy year for one-year term insurance in the amount of the guaranteed death benefit in that policy year.

004.10 "Ten-year select factors" means the select factors adopted with the 1980 amendments to the NAIC Standard Valuation Law.

004.11 (1) "Unitary reserves" means the present value of

all future guaranteed benefits less the present value of all future modified net premiums, where:

004.011(1)(a) Guaranteed benefits and modified net premiums are considered to the mandatory expiration of the policy; and

004.011(1)(b) Modified net premiums are a uniform percentage of the respective guaranteed gross premiums, where the uniform percentage is such that, at issue, the present value of the net premiums equals the present value of all death benefits and pure endowments, plus the excess of 004.11(1)(b)(i) over 004.11(1)(b)(ii), as follows:

(b) (i) Α net leve annt pren equa to the pres valu at the date of issue of the bene prov

004. (1)

for after the first polic year divid by the pres valu at the date of issuc of an annu of one per year paya on the first and each subs anni of the polic on whic a pren falls due. How the net leve

annu pren shall not exce the net leve annu pren on the nine year pren who life plan of insu of the samo rene year equi leve amo at an age one year high than the age

at issue of the polic

004. (1) (b) (ii) Α net one year term pren for the bene prov for in the first polic year

004.11 (2) The interest rates used in the present value calculations for any policy may not exceed the maximum valuation interest rate, determined with a guarantee duration equal to the length from issue to the mandatory expiration of the policy.

004.12 "Universal life insurance policy" means any individual life insurance policy under the provisions of which separately identified interest credits (other than in connection with dividend accumulations, premium deposit funds, or other supplementary accounts) and mortality or expense charges are made to the policy.

005. General Calculation Requirements for Basic Reserves and Premium Deficiency Reserves.

005.01 At the election of the company for any one or more specified plans of life insurance, the minimum

mortality standard for basic reserves may be calculated using the 1980 CSO valuation tables with select mortality factors (or any other valuation mortality table adopted by the NAIC after the operative date of this regulation and promulgated by regulation by the director for this purpose). If select mortality factors are elected, they may be:

005.01(1) The ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law;

005.01(2) The select mortality factors in the Appendix; or

005.01(3) Any other table of select mortality factors adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the director for the purpose of calculating basic reserves.

005.02 Deficiency reserves, if any, are calculated for each policy as the excess, if greater than zero, of the quantity A over the basic reserve. The quantity A is obtained by recalculating the basic reserve for the policy using guaranteed gross premiums instead of net premiums when the guaranteed gross premiums are less than the corresponding net premiums. At the election of the company for any one or more specified plans of insurance, the quantity A and the corresponding net premiums used in the determination of quantity A may be based upon the 1980 CSO valuation tables with select mortality factors (or any other valuation mortality table adopted by the NAIC after the effective date of this regulation and promulgated by regulation by the director). If select mortality factors are elected, they may be:

005.02(1) The ten-year select mortality factors incorporated into the 1980 amendments to the NAIC

Standard Valuation Law;

005.02(2) The select mortality factors in the Appendix of this regulation;

005.02(3) For durations in the first segment, X percent of the select mortality factors in the Appendix, subject to the following:

005.02(3)(a) X may vary by policy year, policy form, underwriting classification, issue age, or other any policy factor expected to affect mortality experience;

005.02(3)(b)
X shall not be less than twenty percent (20%);

005.02(3)(c) X shall not decrease in any successive policy years;

005.02(3)(d) X is such that, when using the valuation interest rate used for basic reserves,

005.01(3)(d)

(i) is greater than or equal to 005.02(d) (ii);

005.02(3)(e) X is such that the mortality rates resulting from the application of X are at least as great the as anticipated mortality experience, without recognition of mortality improvement beyond valuation date, in each of the first five (5) years after the valuation date;

005.02(3)(f)
The appointed actuary shall increase X at any valuation date where it is necessary to

continue to meet all the requirements of Subsection 005.02;

005.02(3)(g)The appointed actuary may decrease X at any valuation date as long as does X not decrease in any successive policy years and as long as it continues to meet all the requirements of Subsection 005.02; and

005.02(3)(h)The appointed actuary shall specifically take into account the adverse effect expected mortality and lapsation of any anticipated or actual increase in gross premiums.

005.02(3)(i) If X is less than 100 percent at any duration for any policy,

the following requirements shall be met:

005.02(4) Any other table of select mortality factors adopted by the NAIC after the operative date of this regulation and promulgated by regulation by the director for the purpose of calculating deficiency reserves.

005.03 This subsection applies to both basic reserves and deficiency reserves. Any set of select mortality factors may be used only for the first segment. However, if the first segment is less than ten (10) years, the appropriate ten-year select mortality factors incorporated into the 1980 amendments to the NAIC Standard Valuation Law may be used thereafter through the tenth policy year from the date of issue.

005.04 In determining basic reserves or deficiency reserves, guaranteed gross premiums without policy fees may be used where the calculation involves the guaranteed gross premium but only if the policy fee is a level dollar amount after the first policy year. In determining deficiency reserves, policy fees may be included in guaranteed gross premiums, even if not included in the actual calculation of basic reserves.

005.05 Reserves for policies that have changes to guaranteed gross premiums, guaranteed benefits, guaranteed charges, or guaranteed credits that are unilaterally made by the insurer after issue and that are effective for more than one year after the date of the change shall be the greatest of the following: (1) reserves calculated ignoring the guarantee, (2) reserves assuming the guarantee was made at issue, and (3) reserves assuming that the policy was issued on the date of the guarantee.

005.06 The director may require that the company document the extent of the adequacy of reserves for specified blocks, including but not limited to policies issued prior to the operative date of this regulation. This documentation may include a demonstration of the extent to which aggregation with other non-specified blocks of business is relied upon in the formation of the appointed

actuary opinion pursuant to and consistent with the requirements of Section 008 of Chapter 69 of the Nebraska Department of Insurance Regulations.

<u>006</u>. <u>Calculation of Minimum Valuation Standard for Policies with</u> Guaranteed Nonlevel Gross

<u>Premiums or Guaranteed Nonlevel Benefits (Other than Universal Life Policies)</u>

006.01 Basic Reserves

Basic reserves shall be calculated as the greater of the segmented reserves and the unitary reserves. Both the segmented reserves and the unitary reserves for any policy shall use the same valuation mortality table and selection factors. At the option of the insurer, in calculating segmented reserves and net premiums, either of the adjustments described in Subsections 006.01(1) or 006.01(2) below may be made:

006.01(1) Treat the unitary reserve, if greater than zero, applicable at the end of each segment as a pure endowment and subtract the unitary reserve, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment.

006.01(2) Treat the guaranteed cash surrender value, if greater than zero, applicable at the end of each segment as a pure endowment; and subtract the guaranteed cash surrender value, if greater than zero, applicable at the beginning of each segment from the present value of guaranteed life insurance and endowment benefits for each segment.

006.02 Deficiency Reserves

006.02(1) The deficiency reserve at any duration shall be calculated:

006.02(1)(a) On a unitary basis if the corresponding basic reserve determined by Subsection 006.01 is unitary;

006.02(1)(b) On a segmented basis if the corresponding basic reserve determined by Subsection 006.01 is segmented; or

006.02(1)(c)the On segmented basis if the corresponding basic reserve determined bv Subsection 006.01 is the equal both segmented reserve and the unitary reserve.

006.02(2) This subsection shall apply to any policy for which the guaranteed gross premium at any duration is less than the corresponding modified net premium calculated by the method used in determining the basic reserves, but using the minimum valuation standards of mortality (specified in Section 005.02) and rate of interest.

006.02(3) Deficiency reserves, if any, shall be calculated for each policy as the excess if greater than zero, for the current and all remaining periods, of the quantity A over the basic reserve, where A is obtained as indicated in Section 005.02.

006.02(4) For deficiency reserves determined on a segmented basis, the quantity A is determined using segment lengths equal to those determined for segmented basic reserves.

006.03 Minimum Value

Basic reserves may not be less than the tabular cost of insurance for the balance of the policy year, if mean reserves are used. Basic reserves may not be less than the tabular cost of insurance for the balance of the current modal period or to the paid-to-date, if later, but not beyond the next policy anniversary, if mid-terminal reserves are used. The tabular cost of insurance shall use the same valuation mortality table and interest rates as that used for the calculation of the segmented reserves. However, if select mortality factors are used, they shall be the ten-year select factors incorporated into the 1980 amendments of the NAIC Standard Valuation Law. In no case may total reserves (including basic reserves, deficiency

reserves and any reserves held for supplemental benefits that would expire upon contract termination) be less than the amount that the policyowner would receive (including the cash surrender value of the supplemental benefits, if any, referred to above), exclusive of any deduction for policy loans, upon termination of the policy.

006.04 Unusual Pattern of Guaranteed Cash Surrender Values

006.04(1) For any policy with an unusual pattern of guaranteed cash surrender values, the reserves actually held prior to the first unusual guaranteed cash surrender value shall not be less than the reserves calculated by treating the first unusual guaranteed cash surrender value as a pure endowment and treating the policy as an n year policy providing term insurance plus a pure endowment equal to the unusual cash surrender value, where n is the number of years from the date of issue to the date the unusual cash surrender value is scheduled.

006.04(2) The reserves actually held subsequent to any unusual guaranteed cash surrender value shall not be less than the reserves calculated by treating the policy as an n year policy providing term insurance plus a pure endowment equal to the next unusual guaranteed cash surrender value, and treating any unusual guaranteed cash surrender value at the end of the prior segment as a net single premium, where

006.04(2)(a) n is the number of

years from the date of the last unusual guaranteed cash surrender value prior to the valuation date to the earlier of:

006.04(2)(i)
The date of the next unusual guaranteed cash surrender value, if any, that is scheduled after the valuation date; or

006.04(2)(ii)
The
mandatory
expiration date
of the policy;
and

006.04(2)(b) The net premium for a given year during the n year period is equal to the product of the net to gross ratio and the respective gross premium; and

006.04(2)(c) The net to gross ratio is equal to 006.04(2)(c)(i) divided by 006.04(2)(c)(ii) as follows:

006.04(2)(c)(i) The present value, at the beginning of the *n* year period, of death benefits

payable during the n year period plus the present value, the beginning of the n year period, of the next unusual guaranteed cash surrender value, if any, minus the amount of the unusual last guaranteed cash surrender value, if any, scheduled the beginning of the n year period.

006.04(2)(c)(ii)The present value, at the beginning of the *n* year period, of the scheduled gross premiums payable during the n year period.

006.04(3) For purposes of this subsection, a policy is considered to have an unusual pattern of guaranteed cash surrender values if any future guaranteed cash surrender value exceeds the prior year's guaranteed cash surrender value by more than the sum of:

006.04(3)(a) One hundred ten percent (110%) of the scheduled

gross premium for that year;

006.04(3)(b) One hundred ten percent (110%) of one year's accrued interest on the sum of the prior year's guaranteed cash surrender value and the scheduled gross premium using the nonforfeiture interest rate used for calculating policy guaranteed cash surrender values; and

006.04(3)(c) Five percent (5%) of the first policy year surrender charge, if any.

006.05 Optional Exemption for Yearly Renewable Term Reinsurance. At the option of the company, the following approach for reserves on YRT reinsurance may be used:

006.05(1) Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

006.05(2) Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in Subsection 006.03.

006.05(3) Deficiency reserves.

006.05(3)(a) For each policy year, calculate the excess, if greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

006.05(3)(b) Deficiency reserves shall never be

less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with Subparagraph 006.05(3) (a) above.

006.05(4) For purposes of this subsection, the calculations use the maximum valuation interest rate and the 1980 CSO mortality tables with or without ten-year select mortality factors, or any other table adopted after the operative date of this regulation by the NAIC and promulgated by regulation by the director for this purpose.

006.05(5) A reinsurance agreement shall be considered YRT reinsurance for purposes of this subsection if only the mortality risk is reinsured.

006.05(6) If the assuming company chooses this optional exemption, the ceding company's reinsurance reserve credit shall be limited to the amount of reserve held by the assuming company for the affected policies.

006.06 Optional Exemption for Attained-Age-Based Yearly Renewable Term Life Insurance Policies. At the option of the company, the following approach for reserves for attained-age-based YRT life insurance policies may be used:

006.06(1) Calculate the valuation net premium for each future policy year as the tabular cost of insurance for that future year.

006.06(2) Basic reserves shall never be less than the tabular cost of insurance for the appropriate period, as defined in Subsection 006.03.

006.06(3) Deficiency reserves.

006.06(3)(a) For each policy year, calculate the if excess, greater than zero, of the valuation net premium over the respective maximum guaranteed gross premium.

006.06(3)(b)Deficiency reserves shall never be less than the sum of the present values, at the date of valuation, of the excesses determined in accordance with Subparagraph 006.06(3)(a)above.

006.06(4) For purposes of this subsection, the calculations use the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten-year select mortality factors, or any other table adopted after the operative date of this regulation by the NAIC and

promulgated by regulation by the director for this purpose.

006.06(5) A policy shall be considered an attained-age-based YRT life insurance policy for purposes of this subsection if:

06.06(5)(a)The premium rates (on both the initial current premium scale and the guaranteed maximum premium scale) are based upon the attained age of the insured such that the rate for any given policy at given a attained age of the insured is independent of the year the policy was issued; and

006.06(5)(b)
The premium rates (on both the initial current premium scale and the guaranteed maximum premium scale) are the

same as the premium rates for policies covering all insureds of the same sex, risk class, plan of insurance and attained age.

006.06(6) For policies that become attained-age-based YRT policies after an initial period of coverage, the approach of this subsection may be used after the initial period if:

006.06(6)(a)
The initial period is constant for all insureds of the same sex, risk class and plan of insurance; or

006.06(6)(b)
The initial period runs to a common attained age for all insureds of the same sex, risk class and plan of insurance; and

006.06(6)(c)
After the initial period of coverage, the policy meets the conditions of

Paragraph 006.06(5) above.

006.06(7) If this election is made, this approach shall be applied in determining reserves for all attained-age-based YRT life insurance policies issued on or after the operative date of this regulation.

006.07 Exemption from Unitary Reserves for Certain *n*-Year Renewable Term Life Insurance Polices. Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met:

006.07(1) The policy consists of a series of *n*-year periods, including the first period and all renewal periods, where n is the same for each period, except that for the final renewal period, n may be truncated or extended to reach the expiry age, provided that this final renewal period is less than 10 years and less than twice the size of the earlier nyear periods, and for each period, the premium rates on both the initial current premium scale and the guaranteed maximum premium scale are level:

006.07(2) The guaranteed gross premiums in all *n*-year periods are not less than the corresponding net premiums based upon the 1980 CSO Table with or without the tenyear select mortality factors; and

006.07(3) There are no cash surrender values in any policy year.

006.08 Exemption from Unitary Reserves for Certain

Juvenile Policies

Unitary basic reserves and unitary deficiency reserves need not be calculated for a policy if the following conditions are met, based upon the initial current premium scale at issue:

006.08(1) At issue, the insured is age twenty-four (24) or younger;

006.08(2) Until the insured reaches the end of the juvenile period, which shall occur at or before age twenty-five (25), the gross premiums and death benefits are level, and there are no cash surrender values; and

006.08(3) After the end of the juvenile period, gross premiums are level for the remainder of the premium paying period, and death benefits are level for the remainder of the life of the policy.

<u>007</u>. <u>Calculation of Minimum Valuation Standard for Flexible Premium and Fixed Premium</u>

<u>Universal Life Insurance Policies That Contain Provisions Resulting in the Ability of a</u>

Policyowner to Keep a Policy in Force Over a Secondary Guarantee Period.

007.01 General

007.01(1) Policies with a secondary guarantee include:

007.01(a) A policy with a guarantee that the policy will remain in force at the original schedule of benefits,

subject only to the payment of specified premiums;

007.01(b) A policy in minimum which the premium at any duration less. than the corresponding one year valuation premium, calculated using the maximum valuation interest rate and the 1980 CSO valuation tables with or without ten-year select mortality factors, any other table adopted after the operative date of this regulation by the NAIC promulgated regulation by the director for this purpose; or

007.01(c) A policy with any combination of Subparagraph 007.01(a) and 007.01(b).

007.01(2) A secondary guarantee period is the period for which the policy is guaranteed to remain in force subject only to a secondary guarantee. When a policy contains more than one secondary guarantee, the minimum reserve shall be the greatest of the respective minimum reserves at that valuation date of each unexpired secondary guarantee, ignoring all other secondary guarantees. Secondary guarantees that are unilaterally changed by the insurer after issue shall be considered to have been made at issue. Reserves described in Subsections 007.02 and 007.03 below shall be recalculated from issue to reflect these changes.

007.01(3) Specified premiums mean the premiums specified in the policy, the payment of which guarantees that the policy will remain in force at the original schedule of benefits, but which otherwise would be insufficient to keep the policy in force in the absence of the guarantee if maximum mortality and expense charges and minimum interest credits were made and any applicable surrender charges were assessed.

007.01(4) For purposes of this section, the minimum premium for any policy year is the premium that, when paid into a policy with a zero account value at the beginning of the policy year, produces a zero account value at the end of the policy year. The minimum premium calculation shall use the policy cost factors (including mortality charges, loads and expense charges) and the interest crediting rate, which are all guaranteed at issue.

007.01(5) The one-year valuation premium means the net one-year premium based upon the original schedule of benefits for a given policy year. The one-year valuation premiums for all policy years are calculated at issue. The select mortality factors defined in Section 005.02(2), 005.02(3), and 005.02(4) may not be used to calculate the one-year valuation premiums.

007.01(6) The one-year valuation premium should reflect the frequency of fund processing, as well as the distribution of deaths assumption employed in the calculation of the monthly mortality charges to the fund.

007.02 Basic Reserves for the Secondary Guarantees

Basic reserves for the secondary guarantees shall be the segmented reserves for the secondary guarantee period.

In calculating the segments and the segmented reserves, the gross premiums shall be set equal to the specified premiums, if any, or otherwise to the minimum premiums, that keep the policy in force and the segments will be determined according to the contract segmentation method as defined in Section 004.02.

007.03 Deficiency Reserves for the Secondary Guarantees

Deficiency reserves, if any, for the secondary guarantees shall be calculated for the secondary guarantee period in the same manner as described in Section 006.02 with gross premiums set equal to the specified premiums, if any, or otherwise to the minimum premiums that keep the policy in force.

007.04 Minimum Reserves

The minimum reserves during the secondary guarantee period are the greater of:

007.04(1) The basic reserves for the secondary guarantee plus the deficiency reserve, if any, for the secondary guarantees; or

007.04(2) The minimum reserves required by other rules or regulations governing universal life plans.

<u>008</u>. <u>Operative Date.</u>

This regulation shall become operative January 1, 2000.

Appendix A

SELECT MORTALITY FACTORS

The six tables of select mortality factors contained herein include: (1) male aggregate, (2) male nonsmoker, (3) male smoker, (4) female aggregate, (5) female nonsmoker, and (6) female smoker.

These tables apply to both age last birthday and age nearest birthday mortality tables.

For sex-blended mortality tables, compute select mortality factors in the same proportion as the underlying mortality. For example, for the 1980 CSO-B Table, the calculated select mortality factors are eighty percent (80%) of the appropriate male table in this Appendix, plus twenty percent (20%) of the appropriate female table in this Appendix.

Appendix

SELECT MORTALITY FACTORS

]	Male,	Aggre	gate				
Issue l	Durati	on													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	96	98	98	99	99	100	100	90	92	92	92	92	93	93	96
19	83	84	84	87	87	87	79	79	79	81	81	82	82	82	85
20	69	71	71	74	74	69	69	67	69	70	71	71	71	71	74
21	66	68	69	71	66	66	67	66	67	70	70	70	70	71	71
22	65	66	66	63	63	64	64	64	65	68	68	68	68	69	71
23	62	63	59	60	62	62	63	63	64	65	65	67	67	69	70
24	60	56	56	59	59	60	61	61	61	64	64	64	66	67	70
25	52	53	55	56	58	58	60	60	60	63	62	63	64	67	69
26	51	52	55	56	58	58	57	61	61	62	63	64	66	69	66
27	51	52	55	57	58	60	61	61	60	63	63	64	67	66	67
28	49	51	56	58	60	60	61	62	62	63	64	66	65	66	68
29	49	51	56	58	60	61	62	62	62	64	64	62	66	67	70
30	49	50	56	58	60	60	62	63	63	64	62	63	67	68	71
31	47	50	56	58	60	62	63	64	64	62	63	66	68	70	72
32	46	49	56	59	60	62	63	66	62	63	66	67	70	72	73
33	43	49	56	59	62	63	64	62	65	66	67	70	72	73	75
34	42	47	56	60	62	63	61	63	66	67	70	71	73	75	76
35	40	47	56	60	63	61	62	65	67	68	71	73	74	76	76
36	38	42	56	60	59	61	63	65	67	68	70	72	74	76	77
37	38	45	56	57	61	62	63	65	67	68	70	72	74	76	76
38	37	44	53	58	61	62	65	66	67	69	69	73	75	76	77
39	37	41	53	58	62	63	65	65	66	68	69	72	74	76	76

40	34	40	53	58	62	63	65	65	66	68	68	71	75	76	77
]	Male,	Aggre	gate				
Issue 1	<u>Durati</u>	on													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
41	34	41	53	58	62	63	65	64	64	66	68	70	74	76	77
42	34	43	53	58	61	62	63	63	63	64	66	69	72	75	77
43	34	43	54	59	60	61	63	62	62	64	66	67	72	74	77
44	34	44	54	58	59	60	61	60	61	62	64	67	71	74	77
45	34	45	53	58	59	60	60	60	59	60	63	66	71	74	77
46	31	43	52	56	57	58	59	59	59	60	63	67	71	74	75
47	32	42	50	53	55	56	57	58	59	60	65	68	71	74	75
48	32	41	47	52	54	56	57	57	57	61	65	68	72	73	74
49	30	40	46	49	52	54	55	56	57	61	66	69	72	73	74
50	30	38	44	47	51	53	54	56	57	61	66	71	72	73	75
51	28	37	42	46	49	53	54	56	57	61	66	71	72	73	75
52	28	35	41	45	49	51	54	56	57	61	66	71	72	74	75
53	27	35	39	44	48	51	53	55	57	61	67	71	74	75	76
54	27	33	38	44	48	50	53	55	57	61	67	72	74	75	76
55	25	32	37	43	47	50	53	55	57	61	68	72	74	75	78
56	25	32	37	43	47	49	51	54	56	61	67	70	73	74	100
57	24	31	38	43	47	49	51	54	56	59	66	69	72	100	100
58	24	31	38	43	48	48	50	53	56	59	64	67	100	100	100
59	23	30	39	43	48	48	51	53	55	58	63	100	100	100	100
60	23	30	39	43	48	47	50	52	53	57	100	100	100	100	100
61	23	30	39	43	49	49	50	52	53	75	100	100	100	100	100
62	23	30	39	44	49	49	51	52	75	75	100	100	100	100	100
63	22	30	39	45	50	50	52	75	75	75	100	100	100	100	100
64	22	30	39	45	50	51	75	75	75	75	100	100	100	100	100
65	22	30	39	45	50	65	70	70	70	70	100	100	100	100	100
66	22	30	39	45	60	65	70	70	70	70	100	100	100	100	100
67	22	30	39	60	60	65	70	70	70	70	100	100	100	100	100
68	23	32	55	60	60	65	70	70	70	70	100	100	100	100	100
69	23	52	55	60	60	65	70	70	70	70	100	100	100	100	100
70	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100

									Male,	Aggre	gate				
Issue	sue Duration														
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
															i i

71	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
72	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
73	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
74	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
75	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
76	48	52	55	60	60	65	70	70	70	100	100	100	100	100	100
77	48	52	55	60	60	65	70	70	100	100	100	100	100	100	100
78	48	52	55	60	60	65	70	100	100	100	100	100	100	100	100
79	48	52	55	60	60	65	100	100	100	100	100	100	100	100	100
80	48	52	55	60	60	100	100	100	100	100	100	100	100	100	100
81	48	52	55	60	100	100	100	100	100	100	100	100	100	100	100
82	48	52	55	100	100	100	100	100	100	100	100	100	100	100	100
83	48	52	100	100	100	100	100	100	100	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

			Male, Non-Smoker													
Issue 1	Durati	ion														
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	
18	93	95	96	98	99	100	100	90	92	92	92	92	95	95	96	
19	80	81	83	86	87	87	79	79	79	81	81	82	83	83	86	
20	65	68	69	72	74	69	69	67	69	70	71	71	72	72	75	
21	63	66	68	71	66	66	67	66	67	70	70	70	71	71	73	
22	62	65	66	62	63	64	64	64	67	68	68	68	70	70	73	
23	60	62	58	60	62	62	63	63	64	67	68	68	67	69	71	
24	59	55	56	58	59	60	61	61	63	65	67	66	66	69	71	
25	52	53	55	56	58	58	60	60	61	64	64	64	64	67	70	
26	51	53	55	56	58	60	61	61	61	63	64	64	66	69	67	
27	51	52	55	58	60	60	61	61	62	63	64	66	67	66	67	
28	49	52	57	58	60	61	63	62	62	64	66	66	63	66	68	
29	49	51	57	60	61	61	62	62	63	64	66	63	65	67	68	
30	49	51	57	60	61	62	63	63	63	64	62	63	66	68	70	
31	47	50	57	60	60	62	63	64	64	62	63	65	67	70	71	
32	46	50	57	60	62	63	64	64	62	63	65	66	68	71	72	
33	45	49	56	60	62	63	64	62	63	65	66	68	71	73	74	

34	43	48	56	62	63	64	62	62	65	66	67	70	72	74	74
35	41	47	56	62	63	61	62	63	66	67	68	70	72	74	75
36	40	47	56	62	59	61	62	63	66	67	68	70	72	74	75
37	38	45	56	58	59	61	62	63	66	67	67	69	71	73	74
38	38	45	53	58	61	62	63	65	65	67	68	70	72	74	73
39	37	41	53	58	61	62	63	64	65	67	68	70	71	73	73
40	34	41	53	58	61	62	63	64	64	66	67	69	71	73	72

42 34 43 53 58 60 61 62 61 61 63 64 66 67 69 71 43 32 43 53 58 60 61 60 60 60 62 64 66 68 69 44 32 44 52 57 59 60 60 59 59 58 60 62 65 67 69 45 32 44 52 57 59 60 59 57 57 59 61 63 66 68 46 32 42 50 54 56 57 57 56 55 56 59 61 63 65 66 68 46 32 42 48 50 51 53 55 59 61 62 63 66 47 30 40 48									N.	Iale, N	lon-Sn	noker				
41 34 41 53 58 61 61 62 62 63 65 65 67 69 71 71 42 34 43 53 58 60 61 62 61 61 63 64 66 67 69 71 71 43 32 43 53 58 60 61 60 60 60 62 64 66 68 69 44 32 44 52 57 59 60 59 57 57 59 61 63 66 68 69 45 32 44 52 57 59 60 59 57 57 59 61 63 66 68 46 32 42 56 57 57 56 55 56 59 61 63 65 67 47 30 40	Issue 1	Durati	on													
42 34 43 53 58 60 61 62 61 61 63 64 66 67 69 71 43 32 43 53 58 60 61 60 60 60 62 64 66 68 69 44 32 44 52 57 59 60 60 59 59 58 60 62 65 67 69 45 32 44 52 57 59 60 59 57 57 59 61 63 66 68 46 32 42 50 54 56 57 57 56 55 56 59 61 63 65 66 68 46 32 42 48 52 54 55 55 54 54 55 59 61 62 63 66 66 68	Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
43 32 43 53 58 60 61 60 60 60 62 64 66 68 69 44 32 44 52 57 59 60 60 59 59 58 60 62 65 67 69 45 32 44 52 57 59 60 59 57 57 59 61 63 66 68 46 32 42 50 54 56 57 57 56 55 56 59 61 63 65 66 68 48 30 40 48 52 54 55 55 54 55 59 61 62 63 63 49 29 39 43 48 50 51 50 51 53 57 61 61 62 63 63 50 29	41	34	41	53	58	61	61	62	62	63	65	65	67	69	71	71
44 32 44 52 57 59 60 60 59 59 58 60 62 65 67 69 45 32 44 52 57 59 60 59 57 57 59 61 63 66 68 46 32 42 50 54 56 57 57 56 55 56 59 61 63 65 67 47 30 40 48 52 54 55 55 54 54 55 59 61 62 63 66 48 30 40 46 49 51 52 53 53 54 55 57 61 62 63 63 50 29 37 42 45 47 48 49 50 51 53 57 60 61 61 62 51	42	34	43	53	58	60	61	62	61	61	63	64	66	67	69	71
45 32 44 52 57 59 60 59 57 57 59 61 63 66 68 46 32 42 50 54 56 57 57 56 55 56 59 61 63 65 67 47 30 40 48 52 54 55 55 54 55 59 61 62 63 66 48 30 40 46 49 51 52 53 53 54 55 57 61 62 63 63 49 29 39 43 48 50 51 53 54 57 61 61 62 63 53 50 29 37 42 45 47 48 49 50 51 53 57 61 61 61 62 53 53 56 60	43	32	43	53	58	60	61	60	60	60	60	62	64	66	68	69
46 32 42 50 54 56 57 57 56 55 56 59 61 63 65 67 47 30 40 48 52 54 55 55 54 55 59 61 62 63 66 48 30 40 46 49 51 52 53 53 54 55 57 61 62 63 63 49 29 39 43 48 50 51 50 51 53 54 57 61 61 62 62 50 29 37 42 45 47 48 49 50 51 54 57 61 61 61 61 61 61 62 50 29 37 42 44 45 48 49 50 51 56 56 61 61 62	44	32	44	52	57	59	60	60	59	59	58	60	62	65	67	69
47 30 40 48 52 54 55 55 54 54 55 59 61 62 63 66 48 30 40 46 49 51 52 53 53 54 55 57 61 62 63 63 49 29 39 43 48 50 51 50 51 53 54 57 61 61 62 62 50 29 37 42 45 47 48 49 50 51 53 54 57 61 61 61 61 51 27 35 40 43 45 47 48 50 51 53 57 60 61 61 62 52 27 34 39 42 44 45 48 49 50 53 56 60 60 62 62	45	32	44	52	57	59	60	59	57	57	57	59	61	63	66	68
48 30 40 46 49 51 52 53 53 54 55 57 61 62 63 63 49 29 39 43 48 50 51 50 51 53 54 57 61 61 62 62 50 29 37 42 45 47 48 49 50 51 54 57 61 61 61 61 51 27 35 40 43 45 47 48 50 51 53 57 60 61 61 62 52 27 34 39 42 44 45 48 49 50 53 56 60 60 62 62 53 25 31 37 41 44 45 47 49 50 51 56 59 61 62 54	46	32	42	50	54	56	57	57	56	55	56	59	61	63	65	67
49 29 39 43 48 50 51 50 51 53 54 57 61 61 62 62 50 29 37 42 45 47 48 49 50 51 54 57 61 61 61 61 61 51 27 35 40 43 45 47 48 50 51 53 57 60 61 61 62 52 27 34 39 42 44 45 48 49 50 53 56 60 60 62 62 53 25 31 37 41 44 45 47 49 50 51 56 59 61 61 62 54 25 30 36 39 43 44 47 48 49 51 55 59 59 61 62	47	30	40	48	52	54	55	55	54	54	55	59	61	62	63	66
50 29 37 42 45 47 48 49 50 51 54 57 61 61 61 61 61 61 61 61 62 51 27 35 40 43 45 47 48 50 51 53 57 60 61 61 62 52 27 34 39 42 44 45 48 49 50 53 56 60 60 62 62 53 25 31 37 41 44 45 47 49 50 51 56 59 61 61 62 54 25 30 36 39 43 44 47 48 49 50 56 59 61 62 55 24 29 35 38 42 42 44 47 48 50 55 57	48	30	40	46	49	51	52	53	53	54	55	57	61	62	63	63
51 27 35 40 43 45 47 48 50 51 53 57 60 61 61 62 52 27 34 39 42 44 45 48 49 50 53 56 60 60 62 62 53 25 31 37 41 44 45 47 49 50 51 56 59 61 61 62 54 25 30 36 39 43 44 47 48 49 51 55 59 59 61 62 55 24 29 35 38 42 42 44 47 48 50 55 59 59 61 62 56 23 29 35 38 42 42 44 47 48 50 55 57 58 59 100	49	29	39	43	48	50	51	50	51	53	54	57	61	61	62	62
52 27 34 39 42 44 45 48 49 50 53 56 60 60 62 62 53 25 31 37 41 44 45 47 49 50 51 56 59 61 61 62 54 25 30 36 39 43 44 47 48 49 51 55 59 59 61 62 55 24 29 35 38 42 43 45 48 49 50 56 58 59 61 62 56 23 29 35 38 42 42 44 47 48 50 55 57 58 59 100 57 23 28 35 38 42 42 44 47 48 50 55 57 58 59 100	50	29	37	42	45	47	48	49	50	51	54	57	61	61	61	61
53 25 31 37 41 44 45 47 49 50 51 56 59 61 61 62 54 25 30 36 39 43 44 47 48 49 51 55 59 59 61 62 55 24 29 35 38 42 43 45 48 49 50 56 58 59 61 62 56 23 29 35 38 42 42 44 47 48 50 55 57 58 59 61 62 56 23 29 35 38 42 42 44 47 48 50 55 57 58 59 100 57 23 28 35 38 42 42 43 45 47 49 53 55 56 100 100 <td>51</td> <td>27</td> <td>35</td> <td>40</td> <td>43</td> <td>45</td> <td>47</td> <td>48</td> <td>50</td> <td>51</td> <td>53</td> <td>57</td> <td>60</td> <td>61</td> <td>61</td> <td>62</td>	51	27	35	40	43	45	47	48	50	51	53	57	60	61	61	62
54 25 30 36 39 43 44 47 48 49 51 55 59 59 61 62 55 24 29 35 38 42 43 45 48 49 50 56 58 59 61 62 56 23 29 35 38 42 42 44 47 48 50 55 57 58 59 100 57 23 28 35 38 42 42 43 45 47 49 53 55 56 100 100 58 22 28 33 37 41 41 43 45 47 49 53 55 56 100 100 59 22 26 33 37 41 41 42 44 44 46 50 100 100 100 100	52	27	34	39	42	44	45	48	49	50	53	56	60	60	62	62
55 24 29 35 38 42 43 45 48 49 50 56 58 59 61 62 56 23 29 35 38 42 42 44 47 48 50 55 57 58 59 100 57 23 28 35 38 42 42 43 45 47 49 53 55 56 100 100 58 22 28 33 37 41 41 43 45 47 49 53 55 56 100 100 59 22 26 33 37 41 41 42 44 44 46 50 100 100 100 60 20 26 33 37 41 40 41 42 42 45 100 100 100 100 61 <	53	25	31	37	41	44	45	47	49	50	51	56	59	61	61	62
56 23 29 35 38 42 42 44 47 48 50 55 57 58 59 100 57 23 28 35 38 42 42 43 45 47 49 53 55 56 100 100 58 22 28 33 37 41 41 43 45 47 51 53 100 100 100 59 22 26 33 37 41 41 42 44 44 46 50 100 100 100 100 60 20 26 33 37 41 40 41 42 42 45 100 100 100 100 61 20 26 33 37 41 40 41 42 42 75 100 100 100 100 62 19	54	25	30	36	39	43	44	47	48	49	51	55	59	59	61	62
57 23 28 35 38 42 42 43 45 47 49 53 55 56 100 100 58 22 28 33 37 41 41 43 45 45 47 51 53 100 100 100 59 22 26 33 37 41 41 42 44 44 46 50 100 100 100 100 60 20 26 33 37 41 40 41 42 42 45 100 100 100 100 61 20 26 33 37 41 40 41 42 42 45 100 100 100 100 62 19 25 32 38 40 40 41 42 75 75 100 100 100 100 63 19	55	24	29	35	38	42	43	45	48	49	50	56	58	59	61	62
58 22 28 33 37 41 41 43 45 45 47 51 53 100 100 100 59 22 26 33 37 41 41 42 44 44 46 50 100 100 100 100 60 20 26 33 37 41 40 41 42 42 45 100 100 100 100 100 61 20 26 33 37 41 40 41 42 42 45 100 100 100 100 62 19 25 32 38 40 40 41 42 75 75 100 100 100 100 63 19 25 33 36 40 40 41 75 75 75 100 100 100 100 64 18 <td>56</td> <td>23</td> <td>29</td> <td>35</td> <td>38</td> <td>42</td> <td>42</td> <td>44</td> <td>47</td> <td>48</td> <td>50</td> <td>55</td> <td>57</td> <td>58</td> <td>59</td> <td>100</td>	56	23	29	35	38	42	42	44	47	48	50	55	57	58	59	100
59 22 26 33 37 41 41 42 44 44 46 50 100 100 100 100 60 20 26 33 37 41 40 41 42 42 45 100 100 100 100 100 61 20 26 33 37 41 40 41 42 42 75 100	57	23	28	35	38	42	42	43	45	47	49	53	55	56	100	100
60 20 26 33 37 41 40 41 42 42 45 100 100 100 100 100 61 20 26 33 37 41 40 41 42 42 75 100 100 100 100 100 62 19 25 32 38 40 40 41 42 75 75 100 100 100 100 100 63 19 25 33 36 40 40 41 75 75 100 100 100 100 64 18 24 32 36 39 40 75 75 75 100 100 100 100 65 18 24 32 36 39 65 70 70 70 70 100 100 100 100 66 18 24 32	58	22	28	33	37	41	41	43	45	45	47	51	53	100	100	100
61 20 26 33 37 41 40 41 42 42 75 100 100 100 100 100 62 19 25 32 38 40 40 41 42 75 75 100 100 100 100 100 63 19 25 33 36 40 40 41 75 75 75 100 100 100 100 64 18 24 32 36 39 40 75 75 75 100 100 100 100 65 18 24 32 36 39 65 70 70 70 70 100 100 100 100 66 18 24 32 36 60 65 70 70 70 70 100 100 100 100 66 18 24 32<	59	22	26	33	37	41	41	42	44	44	46	50	100	100	100	100
62 19 25 32 38 40 40 41 42 75 75 100 100 100 100 100 63 19 25 33 36 40 40 41 75 75 75 100 100 100 100 64 18 24 32 36 39 40 75 75 75 75 100 100 100 100 65 18 24 32 36 39 65 70 70 70 70 100 100 100 100 66 18 24 32 36 60 65 70 70 70 70 100 100 100 100	60	20	26	33	37	41	40	41	42	42	45	100	100	100	100	100
63 19 25 33 36 40 40 41 75 75 75 100 100 100 100 100 64 18 24 32 36 39 40 75 75 75 75 100 100 100 100 65 18 24 32 36 39 65 70 70 70 70 100 100 100 100 66 18 24 32 36 60 65 70 70 70 70 100 100 100 100	61	20	26	33	37	41	40	41	42	42	75	100	100	100	100	100
64 18 24 32 36 39 40 75 75 75 75 100 100 100 100 100 65 18 24 32 36 39 65 70 70 70 70 100 100 100 100 66 18 24 32 36 60 65 70 70 70 70 100 100 100 100	62	19	25	32	38	40	40	41	42	75	75	100	100	100	100	100
65 18 24 32 36 39 65 70 70 70 70 100 100 100 100 100 66 18 24 32 36 60 65 70 70 70 70 100 100 100 100 100	63	19	25	33	36	40	40	41	75	75	75	100	100	100	100	100
66 18 24 32 36 60 65 70 70 70 70 100 100 100 100 100	64	18	24	32	36	39	40	75	75	75	75	100	100	100	100	100
	65	18	24	32	36	39	65	70	70	70	70	100	100	100	100	100
67 18 24 32 60 60 65 70 70 70 70 100 100 100 100 100	66	18	24	32	36	60	65	70	70	70	70	100	100	100	100	100
<u>, , , , , , , , , , , , , , , , , , , </u>	67	18	24	32	60	60	65	70	70	70	70	100	100	100	100	100

68	18	24	55	60	60	65	70	70	70	70	100	100	100	100	100
69	18	52	55	60	60	65	70	70	70	70	100	100	100	100	100
70	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100

								N	Iale, N	lon-Sn	noker				
Issue	Durati	ion													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
71	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
72	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
73	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
74	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
75	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
76	48	52	55	60	60	65	70	70	70	100	100	100	100	100	100
77	48	52	55	60	60	65	70	70	100	100	100	100	100	100	100
78	48	52	55	60	60	65	70	100	100	100	100	100	100	100	100
79	48	52	55	60	60	65	100	100	100	100	100	100	100	100	100
80	48	52	55	60	60	100	100	100	100	100	100	100	100	100	100
81	48	52	55	60	100	100	100	100	100	100	100	100	100	100	100
82	48	52	55	100	100	100	100	100	100	100	100	100	100	100	100
83	48	52	100	100	100	100	100	100	100	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

									Male	, Smol	ker				
Issue 1	Durat	ion													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
18	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
19	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
20	98	100	100	100	100	100	100	99	99	99	100	99	99	99	100
21	95	98	99	100	95	96	96	95	96	97	97	96	96	96	96
22	92	95	96	90	90	93	93	92	93	95	95	93	93	92	93
23	90	92	85	88	88	89	89	89	90	90	90	90	89	90	92
24	87	81	82	85	84	86	88	86	86	88	88	86	86	88	89

25	77	78	79	82	81	83	83	82	83	85	84	84	84	85	86
26	75	77	79	82	82	83	83	82	83	84	84	84	84	85	81
27	73	75	78	82	82	83	83	82	82	82	82	84	84	80	81
28	71	73	79	82	81	82	83	81	81	82	82	82	80	80	81
29	69	72	78	81	81	82	82	81	81	81	81	77	80	80	81
30	68	71	78	81	81	81	82	81	81	81	76	77	80	80	81
31	65	70	77	81	79	81	82	81	81	76	77	79	81	81	83
32	63	67	77	78	79	81	81	81	76	77	77	80	83	83	85
33	60	65	74	78	79	79	81	76	77	77	79	80	83	85	85
34	57	62	74	77	79	79	75	76	77	79	79	81	83	85	87
35	53	60	73	77	79	75	75	76	77	79	80	82	84	86	88
36	52	59	71	75	74	75	75	76	77	79	79	81	83	85	87
37	49	58	70	71	74	74	75	76	77	78	79	81	84	86	86
38	48	55	66	70	72	74	74	75	76	78	79	81	83	85	87
39	45	50	65	70	72	72	74	74	75	77	79	81	84	86	86
40	41	49	63	68	71	72	73	74	74	76	78	80	83	85	86

									Male	, Smol	ker				
Issue	Durati	ion													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
41	40	49	63	68	71	72	72	72	73	75	76	78	81	84	85
42	40	49	62	68	70	71	71	71	71	73	75	76	81	83	85
43	39	50	62	67	69	69	70	70	70	71	73	76	79	83	85
44	39	50	60	66	68	69	68	69	69	69	71	74	79	81	85
45	37	50	60	66	68	68	68	67	67	67	69	73	78	81	85
46	37	48	58	63	65	67	66	66	66	67	71	74	78	81	84
47	36	47	55	61	63	64	64	64	65	67	71	75	79	81	84
48	35	46	53	58	60	62	63	63	65	67	72	75	79	81	83
49	34	45	51	56	58	59	61	62	63	67	72	77	80	81	83
50	34	43	49	53	55	57	60	61	63	67	73	78	80	81	81
51	32	42	47	52	55	57	60	61	63	67	73	78	80	83	84
52	32	40	46	50	54	56	60	61	63	67	73	78	81	84	85
53	30	37	44	49	54	56	59	61	65	67	74	79	83	85	87
54	30	36	43	48	53	55	59	61	65	67	74	80	84	85	89
55	29	35	42	47	53	55	59	61	65	67	75	80	84	86	90
56	28	35	42	47	53	55	57	60	63	68	74	79	83	85	100
57	28	35	42	47	53	54	57	60	64	67	74	78	81	100	100
58	26	33	43	48	54	54	56	59	63	67	73	78	100	100	100

59	26	33	43	48	54	53	57	59	63	66	73	100	100	100	100
60	25	33	43	48	54	53	56	58	62	66	100	100	100	100	100
61	25	33	43	49	55	55	57	59	63	75	100	100	100	100	100
62	25	33	43	50	56	56	58	61	75	75	100	100	100	100	100
63	24	33	45	51	56	56	59	75	75	75	100	100	100	100	100
64	24	34	45	51	57	57	75	75	75	75	100	100	100	100	100
65	24	34	45	52	57	65	70	70	70	70	100	100	100	100	100
66	24	35	45	53	60	65	70	70	70	70	100	100	100	100	100
67	25	35	45	60	60	65	70	70	70	70	100	100	100	100	100
68	25	36	55	60	60	65	70	70	70	70	100	100	100	100	100
69	27	52	55	60	60	65	70	70	70	70	100	100	100	100	100
70	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100

									Male	, Smol	ker				
Issue	Durati	ion													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
71	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
72	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
73	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
74	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
75	48	52	55	60	60	65	70	70	70	70	100	100	100	100	100
76	48	52	55	60	60	65	70	70	70	100	100	100	100	100	100
77	48	52	55	60	60	65	70	70	100	100	100	100	100	100	100
78	48	52	55	60	60	65	70	100	100	100	100	100	100	100	100
79	48	52	55	60	60	65	100	100	100	100	100	100	100	100	100
80	48	52	55	60	60	100	100	100	100	100	100	100	100	100	100
81	48	52	55	60	100	100	100	100	100	100	100	100	100	100	100
82	48	52	55	100	100	100	100	100	100	100	100	100	100	100	100
83	48	52	100	100	100	100	100	100	100	100	100	100	100	100	100
84	48	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

								F	'emale	, Aggr	regate				
Issue 3	Durati	ion													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	99	100	100	100	100	100	100	100	93	95	96	97	97	100	100

lı n	1 11	ii.		ı ii		ii.			i i	ı ii	ii .	ı ıı	ı	ı 11	
18	83	83	84	84	84	84	86	78	78	79	82	84	85	88	88
19	65	66	68	68	68	68	63	63	64	66	69	71	72	74	75
20	48	50	51	51	51	47	48	48	49	51	56	57	58	61	63
21	47	48	50	51	47	47	48	49	51	53	57	60	61	64	64
22	44	47	48	45	47	47	48	49	53	54	60	61	63	64	66
23	42	45	44	45	47	47	49	51	53	54	61	64	64	67	69
24	39	40	42	44	47	47	50	51	54	56	64	64	66	69	70
25	34	38	41	44	47	47	50	53	56	57	64	67	69	71	73
26	34	38	41	45	49	49	51	56	58	59	66	69	70	73	70
27	34	38	41	47	50	51	54	57	59	60	69	70	73	70	71
28	34	37	43	47	53	53	56	59	62	63	70	73	70	72	74
29	34	38	43	49	54	56	58	60	63	64	73	70	72	74	75
30	35	38	43	50	56	56	59	63	66	67	70	71	74	75	76
31	35	38	43	51	56	58	60	64	67	65	71	72	74	75	76
32	35	39	45	51	56	59	63	66	65	66	72	72	75	76	76
33	36	39	44	52	58	62	64	65	66	67	72	74	75	76	76
34	36	40	45	52	58	63	63	66	67	68	74	74	76	76	76
35	36	40	45	53	59	61	65	67	68	70	75	74	75	76	75
36	36	40	45	53	55	62	65	67	68	70	74	74	74	75	75
37	36	41	47	52	57	62	65	67	68	69	72	72	73	75	74
38	34	41	44	52	57	63	66	68	69	70	72	71	72	74	75
39	34	40	45	53	58	63	66	68	69	69	70	70	70	73	74
40	32	40	45	53	58	65	65	67	68	69	70	69	70	73	73

								F	'emale	, Aggr	egate				
Issue	Durati	ion													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
41	32	40	45	53	57	63	64	67	68	68	69	69	69	73	74
42	32	40	45	52	56	61	63	65	66	68	69	68	70	74	75
43	31	39	45	51	55	59	61	65	65	66	68	69	69	74	77
44	31	39	45	50	54	58	61	63	64	66	67	68	71	75	78
45	31	38	44	49	53	56	59	62	63	65	67	68	71	77	79
46	29	37	43	48	51	54	59	62	63	65	67	69	71	77	78
47	28	35	41	46	49	54	57	61	62	66	68	69	71	77	77
48	28	35	41	44	49	52	57	61	63	66	68	71	72	75	77
49	26	34	39	43	47	52	55	61	63	67	69	71	72	75	75
50	25	32	38	41	46	50	55	61	63	67	69	72	72	75	74
51	25	32	38	41	45	50	55	61	63	66	68	69	71	74	74

52	23	30	36	41	45	51	56	61	62	65	66	68	68	73	73
53	23	30	36	41	47	51	56	61	62	63	65	66	68	72	72
54	22	29	35	41	47	53	57	61	61	62	62	66	66	69	70
55	22	29	35	41	47	53	57	61	61	61	62	63	64	68	69
56	22	29	35	41	45	51	56	59	60	61	62	63	64	67	100
57	22	29	35	41	45	50	54	56	58	59	61	62	63	100	100
58	22	30	36	41	44	49	53	56	57	57	61	62	100	100	100
59	22	30	36	41	44	48	51	53	55	56	59	100	100	100	100
60	22	30	36	41	43	47	50	51	53	55	100	100	100	100	100
61	22	29	35	39	42	46	49	50	52	80	100	100	100	100	100
62	20	28	33	39	41	45	47	49	80	80	100	100	100	100	100
63	20	28	33	38	41	44	46	80	80	80	100	100	100	100	100
64	19	27	32	36	40	42	80	80	80	80	100	100	100	100	100
65	19	25	30	35	39	72	75	75	80	80	100	100	100	100	100
66	19	25	30	35	72	72	75	75	80	80	100	100	100	100	100
67	19	25	30	72	72	72	75	75	80	80	100	100	100	100	100
68	19	25	68	72	72	72	75	75	80	80	100	100	100	100	100
69	19	64	68	72	72	72	75	75	80	80	100	100	100	100	100
70	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100

								F	'emale	, Aggr	egate				
Issue	Durati	ion													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
71	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100
72	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100
73	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100
74	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100
75	60	60	64	68	68	72	75	75	80	80	100	100	100	100	100
76	60	60	64	68	68	72	75	75	80	100	100	100	100	100	100
77	60	60	64	68	68	72	75	75	100	100	100	100	100	100	100
78	60	60	64	68	68	72	75	100	100	100	100	100	100	100	100
79	60	60	64	68	68	72	100	100	100	100	100	100	100	100	100
80	60	60	64	68	68	100	100	100	100	100	100	100	100	100	100
81	60	60	64	68	100	100	100	100	100	100	100	100	100	100	100
82	60	60	64	100	100	100	100	100	100	100	100	100	100	100	100
83	60	60	100	100	100	100	100	100	100	100	100	100	100	100	100
84	60	100	100	100	100	100	100	100	100	100	100	100	100	100	100
85+	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

								Fe	male,	Non-S	mokei	ŗ			
Issue	Durati	on													
Age	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
0-15	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
16	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
17	96	98	98	98	98	99	99	99	92	92	93	95	95	97	99
18	78	80	80	80	80	81	81	74	75	75	78	79	82	83	85
19	60	62	63	63	63	65	59	59	60	60	64	67	67	70	72
20	42	44	45	45	45	42	42	42	45	45	50	51	53	56	58
21	41	42	44	45	41	42	42	44	47	47	51	53	54	57	59
22	39	41	44	41	41	42	44	45	49	49	54	56	57	58	60
23	38	41	38	40	41	42	44	46	49	50	56	57	58	60	62
24	36	36	38	40	41	42	46	47	50	51	58	59	60	62	63
25	32	34	37	40	41	43	46	49	51	53	59	60	62	63	64
26	32	34	37	41	43	45	47	50	53	53	60	62	63	64	62
27	32	34	38	43	46	47	49	51	53	55	62	63	64	62	62
28	30	34	39	43	47	49	51	53	56	58	63	63	61	62	63
29	30	35	40	45	50	51	52	55	58	59	64	61	62	63	63
30	31	35	40	46	51	52	53	56	59	60	62	62	63	65	65
31	31	35	40	46	51	53	55	58	60	58	62	62	63	65	65
32	32	35	40	45	51	53	56	59	57	58	62	63	63	65	64
33	32	36	41	47	52	55	58	55	58	59	63	63	65	65	65
34	33	36	41	47	52	55	55	57	58	59	63	65	64	65	64
35	33	36	41	47	52	53	57	58	59	61	63	64	64	64	64
36	33	36	41	47	49	53	57	58	59	61	63	64	63	64	63
37	32	36	41	44	49	53	57	58	59	60	62	62	61	62	63
38	32	37	39	45	50	54	57	58	60	60	61	61	61	62	61
39	30	35	39	45	50	54	57	58	60	59	60	60	59	60	61
40	28	35	39	45	50	54	56	57	59	59	60	59	59	59	60

								Fe	male,	Non-S	moke	r			
Issue	Durati	ion													
Age															
41	28	35	39	45	49	52	55	55	58	57	58	59	58	59	60
42	27	35	39	44	49	52	54	55	56	57	57	57	58	60	61
43	27	34	39	44	47	50	53	53	55	55	56	57	56	60	61

44	26	34	38	42	47	50	52	53	54	55	55	55	56	61	62
45	26	33	38	42	45	48	51	51	52	53	54	55	56	61	62
46	24	32	37	40	43	47	49	51	52	53	54	55	56	60	61
47	24	30	35	39	42	45	47	49	51	53	54	55	56	59	60
48	23	30	35	37	40	44	47	49	50	53	54	55	55	59	57
49	23	29	33	35	39	42	45	48	50	53	54	55	55	57	56
50	21	27	32	34	37	41	44	48	50	53	54	55	55	56	55
51	21	26	30	34	37	41	44	48	49	51	53	53	54	55	55